

Application No. 10/781,138
Amendment After Final dated December 30, 2008
Final Office Action Mailed September 3, 2008

IN THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in this application:

Claims 1-37 (Canceled).

38. (Previously Presented) A system for organizing orthodontic appliances comprising:

an orthodontic organizer comprising an orthodontic appliance organizer tray and an orthodontic appliance set up tray;

the orthodontic appliance organizer tray comprising:

a generally horizontal upwardly facing surface;

an orthodontic set-up tray support in a fixed orientation on the upwardly facing surface;

a plurality of holders on the upwardly facing surface each in a fixed predetermined geometric relationship to the fixed orientation of the set-up tray support;

each of the holders being configured to rigidly and removably support a plurality of tooth-positioning orthodontic appliances or one or more packages thereof;

the set-up tray support having a rectangular recess in the upwardly facing surface bounded by four edges each positioned to restrain a set-up tray supported thereon in the fixed orientation on the organizer tray;

the orthodontic set-up tray being supported in the fixed orientation on the set-up tray support of the orthodontic appliance organizer tray and having thereon a plurality of orthodontic appliance staging areas each configured to support one tooth-positioning orthodontic appliance for transfer to a patient, the plurality of staging areas including one area for each of the teeth of a patient to which a tooth-positioning orthodontic appliance is to be attached in the orthodontic treatment of

Application No. 10/781,138

Amendment After Final dated December 30, 2008

Final Office Action Mailed September 3, 2008

a patient arranged relative to each other on the set-up tray in a geometric relationship that corresponds to the order of teeth in the mouth of a patient to which the respective appliances are to be attached;

a plurality of substantially identical, tooth-specific, tooth-positioning orthodontic appliances held in each of the holders in the same predetermined orientation within the respective holder, one appliance of each plurality in the same holder being orthodontically configured for attachment to the same tooth of a patient when used in orthodontic treatment of the patient, with the tooth-specific, tooth-positioning orthodontic appliances held in different holders being orthodontically configured for attachment to different teeth of the patient such that one appliance from each holder forms a single-patient orthodontic appliance set for the orthodontic treatment of a patient;

the substantially identical, tooth-specific, tooth-positioning orthodontic appliances of each plurality being orthodontic brackets that each have 1) a bonding side for bonding to a tooth and an archwire support side opposite the bonding side on a labial-facial axis, 2) a gingival side and an occlusal side opposite the gingival side on a gingival-occlusal axis perpendicular to the labial-facial axis, and 3) a mesial side and a distal side opposite the mesial side on a mesial-distal axis perpendicular to the gingival-occlusal axis and the labial-facial axis;

the plurality of holders each holding the respective pluralities of the orthodontic brackets in a predetermined orientation on the organizer tray, with each of the brackets in each respective plurality being held with their respective gingival-occlusal, labial-facial and mesial-distal axes parallel, and with their respective bonding, archwire-supporting, gingival, occlusal, mesial and distal sides facing in the same directions;

the plurality of holders including a first set of holders for each of a patient's upper teeth arranged in a first predetermined orientation relative to the set-up tray support, and a second set of holders for each of the patient's lower teeth arranged in a second predetermined orientation relative to the set-up tray support that is opposite the first predetermined orientation.

39. (Previously Presented) A system for organizing orthodontic appliances comprising:

an orthodontic organizer comprising an orthodontic appliance organizer tray and an orthodontic appliance set up tray;

the orthodontic appliance organizer tray comprising:

a generally horizontal upwardly facing surface;

an orthodontic set-up tray support in a fixed orientation on the upwardly facing surface;

a plurality of holders on the upwardly facing surface each in a fixed predetermined geometric relationship to the fixed orientation of the set-up tray support; each of the holders being configured to rigidly and removably support a plurality of tooth-positioning orthodontic appliances or one or more packages thereof;

the set-up tray support having a rectangular recess in the upwardly facing surface bounded by four edges each positioned to restrain a set-up tray supported thereon in the fixed orientation on the organizer tray;

the orthodontic set-up tray being supported in the fixed orientation on the set-up tray support of the orthodontic appliance organizer tray and having thereon a plurality of orthodontic appliance staging areas each configured to support one tooth-positioning orthodontic appliance for transfer to a patient, the plurality of staging areas including one area for each of the teeth of a patient to which a tooth-

Application No. 10/781,138

Amendment After Final dated December 30, 2008

Final Office Action Mailed September 3, 2008

positioning orthodontic appliance is to be attached in the orthodontic treatment of a patient arranged relative to each other on the set-up tray in a geometric relationship that corresponds to the order of teeth in the mouth of a patient to which the respective appliances are to be attached;

a plurality of substantially identical, tooth-specific, tooth-positioning orthodontic appliances held in each of the holders in the same predetermined orientation within the respective holder, one appliance of each plurality in the same holder being orthodontically configured for attachment to the same tooth of a patient when used in orthodontic treatment of the patient, with the tooth-specific, tooth-positioning orthodontic appliances held in different holders being orthodontically configured for attachment to different teeth of the patient such that one appliance from each holder forms a single-patient orthodontic appliance set for the orthodontic treatment of a patient;

the substantially identical, tooth-specific, tooth-positioning orthodontic appliances of each plurality being orthodontic brackets, and the plurality of holders including a first set of holders for each of a patient's upper teeth arranged in a first predetermined orientation relative to the set-up tray support and each holding a package of substantially identical tooth-specific orthodontic brackets for each of the upper teeth of a patient, and a second set of holders for each of the patient's lower teeth arranged in a second predetermined orientation relative to the set-up tray support that is opposite the first predetermined orientation and each holding a package of substantially identical tooth-specific orthodontic brackets for each of the lower teeth of a patient.

Claims 40-45 (Canceled)

46. (Previously Presented) A system for organizing orthodontic appliances comprising:
an orthodontic organizer comprising an orthodontic organizer tray and an orthodontic set-up tray;
the orthodontic organizer tray comprising:
means for restraining an orthodontic set-up tray in a given orientation on the organizer tray, and
means for holding a plurality of tooth-specific, tooth-positioning orthodontic appliances in a predetermined orientation on the organizer tray in a fixed geometric relationship to the given orientation so that tooth-positioning orthodontic appliances held in the means for holding on the organizer tray can be transferred by translation and without rotation from the means for holding to a set-up tray, restrained by the means for restraining, in the same predetermined orientation with respect to the set-up tray that they had on the organizer tray;
the orthodontic set-up tray being restrained on the orthodontic appliance organizer tray and having thereon a plurality of bracket staging areas thereon, each configured to support an orthodontic bracket for transfer to a patient, the areas each corresponding to one of the teeth of a patient;
a plurality of packages, one held by each of the means for holding, and each including a carrier having a plurality of bracket constraining elements therein;
a plurality of substantially identical, tooth-specific, orthodontic brackets supported in each of the respective carriers, each bracket within each carrier being substantially identical and configured for placement on the same one of a patient's teeth; the brackets within each package being different from each other and respectively configured for placement on a different one of the patient's teeth;
each package having a cover attached to the carrier to cover the plurality of brackets in each of the appliance constraining elements and removable from the carrier to

simultaneously expose each of the plurality of brackets for removal from the bracket constraining elements;

each bracket constraining element of each carrier having one of the plurality of orthodontic brackets therein, each constrained in the same orientation relative to the carrier, the bracket constraining elements snugly holding the respective brackets to the carrier when the cover is removed; and

each carrier having guide structure thereon configured to fix the orientation of the package relative to an organizer tray when the package is loaded onto cooperating structure on the organizer tray and to thereby present the brackets supported on the carrier in the same orientation that is predetermined in relation to the organizer tray.

47. (Previously Presented) The system of claim 46 wherein:

each of the means for holding includes a pair of parallel, opposed slots in the organizer tray;

each carrier has an elongated recess therein containing the plurality of bracket constraining elements therein;

each bracket constraining element includes a cavity having surfaces shaped to hold one of the orthodontic brackets therein in a fixed orientation relative to the carrier; and

the guide structure includes a flange on the carrier configured to fit into a pair of the slots in an organizer tray to attach the package to the organizer tray in an orientation that is fixed relative to an organizer tray.

48. (Previously Presented) The system of claim 47 wherein:

each of the bracket constraining elements has a shape configured to hold one of the orthodontic brackets in the cavity when the cavities are uncovered; the carrier has the flange on opposite sides thereof and has a handle at one end thereof; each bracket has a bonding base having a gingival edge on one side of the base; the brackets are each being confined, base down, in each of the cavities with the gingival edge thereof facing the handle of the carrier; the cover is slidably mounted on the flange so as to be slidably removable from the carrier to simultaneously expose the plurality of brackets and render the brackets accessible for removal from the bracket constraining elements; and each of the bracket constraining elements includes a cavity having a resilient insert therein having surfaces shaped to snugly hold one of the orthodontic brackets in the cavity when the cover is removed.

49. (Previously Presented) An orthodontic appliance package comprising:

an elongated carrier having a base with a planar upwardly facing surface having an elongated downwardly extending recess formed therein; the recess having a plurality of cavities therein arranged on a longitudinal centerline of the elongated recess, the recess having a flexible foam insert therein having the cavities formed therein each dimensioned to receive and to snugly but releasably hold an orthodontic bracket; the base having a flat flange that extends outwardly in a plane along sides of the recess with a tab handle formed at one end thereof and a pair of straight parallel edges extending along opposite transverse sides thereof for guiding and supporting the package in an organizer tray; a plurality of tooth-specific orthodontic brackets having substantially identical configurations that adapt the brackets for bonding to the same specific one of a

patient's teeth, each bracket having a bonding base with opposite occlusal and gingival edges and opposite mesial and distal edges, each bracket being packaged in the one of the cavities of the carrier with base facing down and oriented with the occlusal edges of their bases facing in the same direction along the longitudinal centerline of the recess; and

an elongated cover having parallel internal channels formed along opposite transverse edges thereof which fit over the flange enclosing the brackets in the cavities and slidably removable from the carrier to expose the brackets for removal from the cavities.

Claims **50-55** (Canceled)

56. (Currently Amended) An orthodontic appliance package comprising:
an elongated base having an outwardly extending flange defining a pair of straight parallel edges lying in a plane and extending along opposite transverse sides thereof for guiding and supporting the package in an organizer tray, the base having an upper surface with at least one elongated recess one or more recesses extending downwardly therefrom and having an upwardly facing opening therein, the at least one recess one or more recesses defining a plurality of cavities arranged longitudinally in a single row along the elongated base;
each of the cavities being accessible through an upwardly facing opening and dimensioned to receive and to snugly but releasably hold an orthodontic bracket; a plurality of substantially identical tooth-specific orthodontic brackets orthodontically designed for the same specific one of a patient's teeth, each bracket having a bonding base with opposite occlusal and gingival edges and opposite mesial and distal edges, the brackets each being snugly but releasably held in one of the cavities and accessible through the upwardly facing opening, the bonding bases of

each bracket facing downwardly, parallel to the plane and oriented with the occlusal edges of the bases of each bracket facing in the same direction.

57. (Previously Presented) The package of claim **56** wherein the flange forms a handle at one end of the elongated base and the bonding bases of each bracket are oriented with the occlusal edges of the bases of each bracket facing the handle.

58. (Previously Presented) The package of claim **56** wherein recess is a single recess containing a resilient insert having the cavities formed therein.

59. (Previously Presented) A system for organizing orthodontic brackets for transfer to a set-up tray, the system comprising a plurality of the packages of claim **56** and further comprising:

an organizer tray having a generally horizontal upwardly facing surface, an orthodontic set-up tray support area on the upwardly facing surface, and a plurality of holders;

each of the holders including a pair of parallel opposed grooves configured to receive the parallel edges of the body of one of the packages and supporting one of the packages on the organizer tray;

each of the holders supporting therein a package having different tooth-specific orthodontic brackets therein orthodontically designed for different specific ones of a patient's teeth;

the holders being arranged on the organizer tray in two parallel rows, including a first row supporting therein packages having different tooth-specific orthodontic brackets therein orthodontically designed for different specific ones of a patient's upper teeth, and a second row supporting therein packages having different tooth-specific orthodontic brackets therein orthodontically designed for different specific ones of a patient's lower teeth, with the brackets in the packages supported in the first row having the gingival edges of their bases facing in a

direction that is opposite from the direction that are facing the gingival edges of the bases of the brackets in the packages supported in the second row.

60. (Previously Presented) A system for organizing orthodontic brackets for transfer to a set-up tray, the system comprising:

an organizer tray having a generally horizontal upwardly facing surface, an orthodontic set-up tray support area on the upwardly facing surface, and a plurality of holders arranged thereon;

each of the holders supporting a package containing a plurality of substantially identical tooth-specific orthodontic brackets orthodontically designed for the same specific one of a patient's teeth, each bracket having a bonding base with opposite occlusal and gingival edges and opposite mesial and distal edges, the bonding bases of each bracket in the package facing in the same direction and oriented with the occlusal edges of the bases of each bracket facing in the same direction;

each of the packages having different tooth-specific orthodontic brackets therein orthodontically designed for different specific ones of a patient's teeth; and

the packages supported by the holders including a first group having tooth-specific orthodontic brackets therein orthodontically designed for different specific ones of a patient's upper teeth, and a second group having tooth-specific orthodontic brackets therein orthodontically designed for different specific ones of a patient's lower teeth, with the brackets in the packages of the first group having the gingival edges of their bases facing in a first direction on the organizer tray and the brackets in the packages of the second group having the gingival edges of their bases facing in a second direction that is opposite the first direction on the organizer tray.

Application No. 10/781,138
Amendment After Final dated December 30, 2008
Final Office Action Mailed September 3, 2008

61. (Previously Presented) The system of claim **60** wherein:

the organizer tray has the plurality of holders arranged thereon in two parallel rows, including a first row and a second row; and

the packages that are supported by the holders of the first row have the brackets therein oriented on the organizer tray with the gingival edges of their bases facing in a first direction on the organizer tray and the packages that are supported by the holders of the second row have the brackets therein oriented on the organizer tray with the gingival edges of their bases facing in a second direction that is opposite the first direction on the organizer tray.

62. (Previously Presented) The system of claim **61** further comprising:

an orthodontic set-up tray supported on the set-up tray support area of the organizer tray and having two rows of orthodontic bracket adhesive-coated staging areas thereon, each adapted to releasably hold one of the orthodontic brackets transferred thereto from a respective one of the packages.

63. (Previously Presented) The system of claim **60** further comprising:

an orthodontic set-up tray supported on the set-up tray support area of the organizer tray and having two rows of orthodontic bracket adhesive-coated staging areas thereon, each adapted to releasably hold one of the orthodontic brackets transferred thereto from a respective one of the packages.

Claim 64 (Canceled)

Application No. 10/781,138

Amendment After Final dated December 30, 2008

Final Office Action Mailed September 3, 2008

65. (Currently Amended) ~~A system for organizing orthodontic appliances comprising the orthodontic organizer tray of claim 64 and further comprising:~~ An orthodontic organizer tray comprising:

a generally horizontal upper surface having generally parallel first and second edges;
an orthodontic set-up tray support area on the upper surface, said area having a long
dimension oriented parallel to and lying between the first and second edges of the
upper surface;

a plurality of holders arranged in two rows of 10 to 16 holders each, including a first row
of holders between and generally parallel to the first edge and the set-up tray
support area, and a second row of holders between and generally parallel to the
second edge and the set-up tray support area;

each holder in each respective row having fixed guide structure that is oriented
perpendicular to the first and second edges of the upper surface, the fixed guide
structure being configured to engage external surfaces of an orthodontic appliance
package and constrain the package so engaged in a fixed orientation on the
organizer tray; and

a plurality of packages that each contain a plurality of substantially identical tooth-specific orthodontic brackets each having a pad with a bonding surface configured to bond against the surface of a tooth, with the bonding surfaces of the brackets in each package being oriented relative to the package in a first direction that is the same for each bracket in the package, and with each pad having an occlusal edge designed to face in an occlusal direction on a tooth, with the pads of the brackets in each package being oriented relative to the package in a second direction normal to the first direction and that is the same for each bracket in the package.

66. (Currently Amended) The system of claim 65 further comprising: An orthodontic organizer tray comprising:

a generally horizontal upper surface having generally parallel first and second edges;
an orthodontic set-up tray support area on the upper surface, said area having a long
dimension oriented parallel to and lying between the first and second edges of the
upper surface;
a plurality of holders arranged in two rows of 10 to 16 holders each, including a first row
of holders between and generally parallel to the first edge and the set-up tray
support area, and a second row of holders between and generally parallel to the
second edge and the set-up tray support area;
each holder in each respective row having fixed guide structure that is oriented
perpendicular to the first and second edges of the upper surface, the fixed guide
structure being configured to engage external surfaces of an orthodontic appliance
package and constrain the package so engaged in a fixed orientation on the
organizer tray; and

an orthodontic set-up tray supported on the set-up tray support area of the organizer tray and having two rows of orthodontic bracket adhesive-coated staging areas thereon, each adapted to releasably hold one of the orthodontic brackets transferred thereto from a respective one of the packages.